



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,032	04/24/2001	Peter A. Liken	TI-121US	5823

24314 7590 10/21/2002

JANSSON, SHUPE & MUNGER, LTD
245 MAIN STREET
RACINE, WI 53403

EXAMINER

DINH, TUAN T

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 10/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/841,032

Applicant(s)

LIKEN ET AL.

Examiner

Tuan T Dinh

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,9-12,15 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 6-8,13-14,16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/25/02 have been fully considered but they are not persuasive.

Applicant argues:

(a) Chatel does not "provide for any adjustment of the distance between the lateral panels"

(b) Chatel does not "provide for additional apertures to allow for adjustability"

(d) Chatel in view of Siting does not show "the rack includes a platform and a board retention member exerting compressive force on the boards"

Examiner disagrees.

Response to argument (a), Chatel discloses two panels (12, 13) adjustable secured in a frame by screws (24) into holes of the panels (12,13). The panel (12) shows holes and the screws (24) can be secured either one of the holes on each of the panel for adjusting the panels fastened to the frame.

Response to argument (b), Chatel clearly shows in figure 1 that a rack (28) having more than one holes as apertures to allow the screws (24) adjustable secured the panels to the frame.

Response to argument (d), in combination of Chatel in view of Siting, Chatel clearly shows the rack (28) having a platform and a board retention member (16), the platform having guide rails (27) that exerts a compression force on the board when the board (14) inserted into the rack (28).

Claim Objections

2. Claims 17 and 20 are objected to because of the following informalities:

Claim 17, line 2, change "to receive circuit boards" to -to receive the circuit boards"

Claim 20, line 2, change "the platform and board retention member" to -the platform and the board retention member"

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 9-10, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chatel (U. S. Patent 5,506,751) in view of Sittig (submitted by applicant).

As best understood to claims 1, 3, 5, and 9-10, Chatel discloses a circuit board support rack as shown in figures 1-6 comprising:

a frame (column 5, line 9);

a board engagement platform (32-figure 2, column 5, lines 44-45) fixed with respect to the frame by a distance;

a board retention member (16, column 5, line 16) spaced from the engagement platform; and

a first adjustment mechanism (12; 13, column 5, line 6) co-acting with the frame and the retention member and permitting adjustment of the distance.

Chatel does not teach a second adjustment mechanism on the retention member, such second adjustment mechanism being mounted.

Sittig shows a card rack (column 2, line 9) disclosed in figures 1-3 having a second adjustment mechanism (22) on the retention member (12), such second adjustment mechanism being mounted and the platform and the second adjustment mechanism exert compressive force on a board.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a second adjustment mechanism on the retention member as taught by Sittig to employ the support rack of Chatel in order to apply mounting forces which are tightly controlled and visibly inspectable without disturbing the other circuit board being held.

As to claim 2, Chatel discloses the circuit board support rack as shown in figure 4 wherein:

the frame includes plural openings (35, column 5, line 65); and

the first adjustment mechanism (12) includes apertures (holes for screws 24 fastener) spaced from one another.

As to claim 4, Chatel discloses the circuit board support rack as shown in figures 6 wherein:

the board engagement platform (32) includes a linear engagement groove (31-figure 2).

As to claims 17-19, Chatel discloses the rack as shown in figures 1-6 wherein the first adjustment mechanism (12, 13) permits adjustment of the distance in increments to enable the rack to receive the circuit boards of various sizes between the platform and the board retention member.

5. Claims 11-12, 15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chatel in view of Sittig and further in view of Wetzel et al. (submitted by applicant).

As to claims 11-12, Chatel and Sittig disclose all of the limitations of the claimed invention, except for a vibration table having a plurality of openings.

Wetzel shows a vibration table (10-figure 1) having a plurality of openings (49-figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a vibration table structure as taught by Wetzel to employ the support rack of Chatel and Sittig in order to provide a simultaneous vibration, thermal stress, and flexible to resist cracking.

As to claim 15, Chatel discloses the circuit board support rack as shown in figures 1-6 wherein:

the end panels (12, 13) are first and second end panels having, respectively, first and second rows of vertically-spaced-apart apertures (holes for screws 24);

first and second screws (24) extend, respectively, through an aperture of the first and second rows and engage the board retention member.

As to claim 20, Chatel discloses the rack as shown in figures 1-6 wherein the platform and the retention member are spaced apart by a distance, and the distance is adjustable.

Allowable Subject Matter

6. Claims 6-8 and 13, 14, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Application/Control Number: 09/841,032
Art Unit: 2827

Page 7

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 703-306-5856. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-308-3301. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-1341 for regular communications and 703-305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TD
October 19, 2002.


ALBERT W. PALADINI
PRIMARY EXAMINER